The goal of the workshop is to establish a collaborative interdisciplinary research environment, by using the appropriate set of mechanical, electronics and bioengineering sciences, in order to develop aerospace applications. Gathering specialists from all these fields of interest will result in future innovative research and cross-border studies with real impact on everyday life. The current technological challenges of the space industry, as well as the international ESA program, bring the need for innovative research programs, requiring highly qualified experts and a broad interdisciplinary vision. The development of these technologies is possible only through intense collaboration between the technological sectors corresponding to the exact and biomedical sciences, with a broad view into new fundamental research problems that arise with every little discovery made in the aerospace field. We align with the current global trend of bringing valuable contributions, through research towards sustaining and improving life in space.